Monitors

BOSCH

MON152CL

The MON152CL is a high resolution, high performance liquid crystal display (LCD) video display monitor. Available in an ergonomic, aesthetically pleasing design, this state-of-the-art monitor includes a 38-cm (15-inch) color thin film transistor (TFT) active matrix LCD panel with 1024 by 768 pixels. Designed for the CCTV security marketplace, the MON152CL monitor includes two looping composite video inputs, two looping audio inputs, and one Y/C input.

Features

- Provides 500 TV Lines Resolution
- Y/C (S-video) and Loop-through Composite Video & Audio Inputs
- Analog VGA Input
- Space Saving, Compact Design
- 50% Less Power Consumption than Conventional CRT Monitors
- NTSC & PAL Formats
- Picture-in-Picture Feature
- Universal Power Source
- Front Panel Control Lockout
- On-Screen Display (OSD) for Setup and Adjustment

Functions

Additionally, this model includes an analog VGA input to accommodate the increasing use of PC's and digital video devices in security applications.

To enhance the multi-input capability, a "picture-in-picture" function has been added, allowing any of the composite video or Y/C inputs to be inserted into each other, or into the VGA input display when operating in the analog VGA mode.

Adjustment of standard monitor display parameters is made user-friendly via on-screen menus (available in several languages), and front panel controls. For additional security, the MON152CL includes a front panel lockout feature that disables the front panel control buttons.

Using long-life fluorescent backlights, the brightness level is maintained over time, because the LCD monitor design avoids the brightness degradation experienced with aging CRT-type monitors. It also provides a sharp display, free of the annoying flicker prevalent in CRT monitors, allowing longer use of your LCD monitor with little or no eyestrain. The versatile design allows it to automatically accept NTSC and PAL signal formats, and power supply voltages from 90 to 264 VAC.

Its compact styling, including an LCD panel width of 70 mm (3 inches), makes the MON152CL the color monitor of choice for large screen, space limited applications.With its wide range viewing angle, 135° in horizontal and 125° in the vertical direction, the unit can be properly viewed whether installed on a desktop, wall mounted, or rack mounted in a standard 19-inch EIA rack.

Parts Included

Quant.	Component
1	MON152CL

Technical Specifications	
Electrical	
Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	90 to 264
Power at Rated Voltage	38 W
Sync Format	PAL/NTSC
LCD Panel	TFT LCD
Screen Size	304.1 (H) x 228.1 (V) mm (12 x 9 in)
Viewable Picture Area	38 cm (15 in) measured diagonally
Pixel Pitch	0.297 (H) x 0.297 (V) mm
Resolution	1024 x 768 pixels; 500 TVL Typical
Aspect Ratio	4:3
Display Colors	6 bits Interface; 16 million colors
Backlight	Four (4) cold Cathode Fluorescent Tubes, rated life 50,000 hours, at 50% brightness
Optical Characteristics	
Luminance	300 cd/m2
Contrast Ratio	500:1
Viewing Angle	140° horizontal, 120° vertical
Video Input	
Composite Video (CVBS)	1.0 Vp-p (0.5-1.5 Vp-p), Automatic switching from 75 Ω unbalanced termination to Hi-Z with loop-through operation
Y/C (S-video)	0.7 Vp-p (Y-signal), 0.3 Vp-p (C-signal), 75 Ω termination
Picture-in-Picture	CVBS 1, CVBS 2, S-VHS
VGA Input	
Analog RGB	0.7 Vp-p (0.5-1 Vrms)
Picture-in-Picture	CVBS 1, CVBS 2, S-VHS
VGA Timing Modes	640 x 480 60/72/75 Hz 800 x 600 56/60/72/75 Hz 1024 x 768 60/70/75/85Hz
Audio Input	1.0 V line level
Audio Output	Loop-through Line Level
	Speaker: Two (2), 1 W
Controls	
Front Panel	Push-buttons
Input	Selects CVBS 1, CVBS 2, Y/C, or VGA Input
Menu	Selects On-Screen Display (OSD) ^ Up Cursor, Brightness Select v Down Cursor, Contrast Select < Adjustment Decrease > Adjustment Increase
Power	On / Off
Front Panel Lockout	Multiple Push-button combination
On-Screen Display	
CVBS	Tint (NTSC only), Color, Default, Language, Channel Title, 3-D Comb Filter, AGC, Underscan, PIP Menu, Power-on Options, Volume, Exit
VGA	Auto Set, Display Setting, Color Temperature, Language, Volume, Default, PIP Menu, Power-on Options, VGA Timing, Exit

Electrical	
Indicators	
LED	Power On (green), Standby (amber), Sleep Mode (flashing amber)
On-Screen	"No Signal" (flashing)
Connectors	
Input 1	Composite Video: Two (2) BNC (1 in, 1 out) Audio: Two (2) RCA (1 in, 1 out)
Input 2	Composite Video: Two (2) BNC (1 in, 1 out) Audio: Two (2) RCA (1 in, 1 out)
Y/C (S-video)	One (1) Mini-DIN, 4-pin (in only)
VGA	One (1) 15-pin D-sub
Power Cord	Two (2), 3-wire with grounded plug, 1.8 m (6 ft) long; one (1) with European Continental plug type and one (1) with U.S. plug type

Mechanical	
Cabinet	Material: ABS94V0 plastic Finish: Charcoal
Dimensions	
LCD Panel with Base	391 (W) x 183 (D) x 395 (H) mm (15.4 x 7.2 x15.6 in)
LCD Panel Only	391 (W) x 70 (D) x 306 (H) mm (15.4 x 2.75 x 12 in)
Weight	LCD Panel with Base: 4.9 kg (10.8 lb) LCD Panel Only: 3.6 kg (8.0 lb)

Environmental	
Operating Temp.	0°C to +50°C (+32°F to 122°F)
Storage Temp.	–20°C to +60°C (–4°F to 140°F)
Humidity	10%–95%, non condensing
Product Regulatory Compliance	
Electromagnetic Compatibility (EMC)	
	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards
Accessories	
Wall Mount Adapter Bracket	VESA standard bracket, included
MON151PS Power Supply	120/220 VAC, 50/60 Hz input, 12 VDC, 4.0 A output. Used for operation away from the base
MON151RK Rack Mount Kit	For mounting one MON152CL monitor in an EIA standard 19-inch rack1 unit wide by 7 rack units high

Ordering Information

Model & Description

MON152CL
15-inch high performance LCD flat panel display color monitor

MON151PS Power supply
120/220 VAC, 50/60 Hz input, 12 VDC, 4.0 A output. Used in operation away from the base

MON151RK Rack mount kit
For mounting one MON171CL monitor in an EIA standard 19-inch rack 1 unit wide by 9 rack units high

BOSCH

MON171CL

Bosch improves on its excellent line-up of color display monitors by adding a second liquid crystal display (LCD) video monitor, the MON171CL, to the product portfolio. Available in an ergonomic, aesthetically pleasing design, this state-of-the-art monitor includes a 43-cm (17-inch) color thin film transistor (TFT) active matrix LCD panel with 1280 by 1024 pixels. This provides the highest TV lines of resolution in the industry for an LCD panel of this size. Designed for the CCTV security marketplace.

Features

- Provides 500 TV lines resolution
- Loop-through composite video, Y/C (S-video) & audio inputs
- Analog VGA input
- Space saving, compact design
- 50% less power consumption than conventional CRT monitors
- NTSC & PAL formats
- Picture-in-Picture feature
- Universal power source
- Front panel control lockout
- On-Screen display (OSD) for setup and adjustment

Functions

The MON171CL monitor includes two looping composite video inputs, two looping audio inputs, and one looping Y/C input. In addition, this model includes an analog VGA input to accommodate the increasing use of PC's and digital video devices in security applications.

To enhance the multi-input capability, a "picture-in-picture" function has been added, allowing any of the composite video or Y/C inputs to be inserted into each other, or into the VGA input display when operating in the analog VGA mode.

Adjustment of standard monitor display parameters are made via user-friendly on-screen menus, available in several languages and accessible using front panel controls.

For additional security, the MON171CL includes a front panel lockout feature that disables the front panel control buttons. Using long-life fluorescent backlights, the brightness level is maintained over time, because the LCD monitor design avoids the brightness degradation experienced with aging CRT-type monitors. It also provides a sharp display, free of the annoying flicker prevalent in CRT monitors, allowing longer use of your LCD monitor with little or no eye strain.

The versatile design allows it to automatically accept NTSC and PAL signal formats, and power supply voltages from 90 to 264 VAC. Its compact styling, including an LCD panel width of 84 mm (3 inches), makes the MON171CL the color monitor of choice for large screen, space limited applications. With its wide range viewing angle, 150¬½ in the horizontal and 140¬½ in the vertical direction, the unit can be properly viewed on a desktop, or can be wall-mounted.

Parts Included

Quant.	Component
1	MON171CL

BOSCH

Technical Specifications	
Electrical	
Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	90 to 264
Power at Rated Voltage	38 W
Sync Format	PAL/NTSC
LCD Panel	TFT LCD
Screen Size	338.0 (H) x 270.3 (V) mm (13.3x10.6 in)
Viewable Picture Area	43 cm (17 in) measured diagonally
Pixel Pitch	0.264 (H) x 0.264 (V) mm
Resolution	1280 x 1024 pixels; 500 TV Lines Typical
Aspect Ratio	4:3 (Composite Video; 5:4 (VGA)
Display Colors	6 bits Interface; 16 million colors
Backlight	Four (4) cold Cathode Fluorescent Tubes, rated life 50,000 hours, at 50% brightness
Optical Characteristics	
Luminance	350 cd/m2
Contrast Ratio	400:1
Viewing Angle	140° horizontal, 140° vertical
Video Input	
Composite Video (CVBS)	1.0 Vp-p (0.5-1.5 Vp-p), Automatic switching from 75 Ω unbalanced termination to Hi-Z with loop-through operation
Y/C (S-video)	1.0 Vp-p (0.5 –1.5 Vp-p), Automatic switching from 75 Ω unbalanced termination to Hi-Z with loop-through operation
Picture-in-Picture	CVBS 1, CVBS 2, S-VHS
VGA Input	
Analog RGB	0.7 Vp-p (0.5-1 Vrms)
Picture-in-Picture	CVBS 1, CVBS 2, S-VHS
VGA Timing Modes	640 x 480 60/72/75 Hz 800 x 600 56/60/72/75 Hz 1024 x 768 60/70/75Hz 1280 x 1024 60/75 Hz
Audio Input	1.0 V line level
Audio Output	Loop-through Line Level Speaker: Two (2), 1 W
Controls	
Front Panel	Push-buttons
Input	Selects CVBS 1, CVBS 2, Y/C, or VGA Input
Menu	Selects On-Screen Display (OSD)
	^ Up Cursor, Brightness Select v Down Cursor, Contrast Select < Adjustment Decrease > Adjustment Increase
Power	On/Off
Front Panel Lockout	Multiple Push-button combination

Electrical	
On-Screen Display	
CVBS	Tint (NTSC only), Color, Default, Language, Channel Title, 3-D Comb Filter, AGC, Underscan, PIP Menu, Power-on Options, Volume, Exit
VGA	Auto Set, Display Setting, Color Temperature, Language, Volume, Default, PIP Menu, Power-on Options, VGA Timing, Exit
Indicators	
LED	Power On (green), Standby (amber), Sleep Mode (flashing amber)
On-Screen	"No Signal" (flashing)
Connectors	
Input 1	Composite Video: Two (2) BNC (1 in, 1 out) Audio: Two (2) RCA (1 in, 1 out)
Input 2	Composite Video: Two (2) BNC (1 in, 1 out) Audio: Two (2) RCA (1 in, 1 out)
Y/C (S-video)	two (2) Mini-DIN, 4-pin (one in, one out)
VGA	One (1) 15-pin D-sub
Power Cord	Two (2), 3-wire with grounded plug, 1.8 m (6 ft) long; one (1) with European Continental plug type and one (1) with U.S. plug type

Mechanical	
Cabinet	Material: ABS94V0 plastic Finish: Charcoal
Dimensions	
LCD Panel with Base	440 (W) x 196 (D) x 428 (H) mm (17.3 x 7.7 x 16.9 in)
LCD Panel Only	440 (W) x 84 (D) x 375 (H) mm (17.3 x 3.3 x 14.8 in)
Weight	LCD Panel with Base: 6.8 kg (14.9 lb) LCD Panel Only: 5.4 kg (11.9 lb)

Environmental	
Operating Temp.	0°C to +40°C (+32°F to 104°F)
Storage Temp.	-20°C to +60°C (–4°F to 140°F)
Humidity	10%–95%, non condensing
Electromagnetic Compatibility (EMC)	
	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

Ordering Information

Model & Description

MON171CL
17-inch LCD Flat Panel Display Monitor

MON151PS Power supply
120/220 VAC, 50/60 Hz input, 12 VDC, 4.0 A output. Used in operation away from the base

MON171RK Rack mount kit
For mounting one MON171CL monitor in an EIA standard 19-inch rack 1 unit wide by 9 rack units high

BOSCH

LTC 20xx Series monochrome video monitor

Bosch offer a range of high performance monitors which reflects the high standards of other associated units in the Bosch' CCTV systems, such as cameras, transmission and control equipment. Included in this range of Bosch are the LTC 2009, LTC 2012, LTC 2017 and LTC 2020 Series of monochrome monitors. They offer high performance pictures with a resolution of 900 TVL, or in the case of the LTC 2017 monitor 700 TVL, making them ideal for remote observation and video applications.

Features

- Choice of 9-, 12-, 17-, and 20-inch monitors
- High quality pictures
- Auto-termination
- Supply 100-230 VAC with selectable selection between EIA and CCIR formats
- LTC 2020/90 has auto detection for EIA/CCIR and audio capabilities
- Robust metal case to minimize interference
- Optional rack mounting (except LTC 2020/90)

Functions

The monitor housing consists of a robust rectangular metal case which minimizes interference from external signals and allows “stacking” of monitors when used in large numbers.

Designed for ease of installation and operation, the monitors will accept a voltage supply of 100-230 VAC, without the need for any switching or adjustments.

The monitors are setup for standard composite video signals, the LTC -/5x versions CCIR format, the LTC -/6x versions EIA format and the LTC 2020/90 with automatic detection of CCIR/EIA format.

All controls are located on the front panel for easy adjustment of the picture image. Monitor features include loop through connection; electrical circuits provide safe guards against interference, noise and changing signal strengths to maintain a clear and stable picture.

Additional features of the LTC 2017 and LTC 2020 monitors include switchable scanning size (over scan & under scan) and switchable DC restoration. Also the LTC 2020/90 monitor includes two video input options and audio input/output with volume control.

An optional rack mounting is available for these monitors (except the LTC 2020/90).

Parts Included

Quant.	Component
1	Monochrome Video Monitor

BOSCH

Technical Specifications

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage	Sync Format
LTC 2009/51	230 VAC. 50 Hz	198 to 264	18 W	CCIR
LTC 2009/61	120 VAC. 60 Hz	108 to 132	18 W	EIA
LTC 2012/51	230 VAC. 50 Hz	198 to 264	18 W	CCIR
LTC 2012/61	120 VAC. 60 Hz	108 to 132	18 W	EIA
LTC 2017/50	230 VAC. 50 Hz	198 to 264	27 W	CCIR
LTC 2017/60	120 VAC .60 Hz	108 to 132	27 W	EIA
LTC 2020/90	230 VAC. 50 Hz 120 VAC. 60 Hz	90 to 264	45 W	CCIR EIA

Monochrome system

CCIR/EIA, selectable on LTC 2009, LTC 2012, LTC 2017.
Auto selectable on LTC 2020.

Video input

Composite video: 0.5 to 2.0 Vpp. sync negative. Auto switching from 75Ohm unbalanced termination to Hi-Z with looped through operation. Two video inputs (LTC 2020/90 only).

Controls

LTC 2009 & LTC 2012:Power,Contrast,Brightness,V-Hold, H-Hold, EIA/CCIR switch, V-Height, V-Lin.

LTC2017: Power, Contrast, Brightness, V-Hold, H-Hold, Under / Over Scan, DC-Restoration, V-Height, V-Lin.

LTC2020: Power, Video A/B, Volume, Sharpness, Contrast, Brightness, V-Hold, H-Hold, Under/Over Scan, DC Restoration, V-Size, H-Size, V-Lin.

Connectors

LTC2009 & LTC2012	Power input socket, 2 BNC Video input.
LT 2017	Power input lead, 2 BNC Video input.
LTC2020	Power input socket, 4 BNC Video input.

Audio input (LTC 2020/90 only)

RCA pin, bridge-out possible.2 RCA phone jacks.

Audio output (LTC 2020/90 only)

Speaker	1 W loop through line level

Power cord

Approx.1.8 m (6 ft) with European Continental type
2.4 m (8 ft) with plug US type

Mechanical

Cabinet

MaterialSteel with plastic front. Finish: Charcoal.

Dimensions (H x W x D)

LTC 2009	234 x 220 x 248 mm (9.2 x 8.7 x 9.6 in).
LTC 2012	287 x 305 x 306 mm (11.3 x 12 x 12 in).
LTC 2017	386 x 419 x 381 mm (15.2 x 16.5 x 15 in).
LTC 2020	441 x 445 x 380 mm (17.4 x 17.5 x 14.96 in).

Weight

LTC 2009	4.3 kg (9.5 lb).
LTC 2012	8.9 kg (19.6 lb).
LTC 2017	15 kg (33 lb).
LTC 2020	17.7 kg (39 lb).

Display Tube

Measured diagonally,90° deflection angle

LTC 2009	23 cm (9 in).
LTC 2012	30 cm (12 in).
LTC 2017	43 cm (17 in).
LTC 2020	51 cm (20 in).

Viewable picture area

LTC 2009	22 cm (9 in).
LTC 2012	29 cm (11 in).
LTC 2017	41 cm (16 in).
LTC 2020	49 cm (19 in).

Linearity

Horizontal	10% max.
Vertical	10% max.

Horizontal resolution

LTC 2009,LTC 2012	800 TVL.
LTC 2017	800 TVL.
LTC 2020	900 TVL.

Environmental

Operation Temp.	-10°C to +50 °C (+14°F to +122 °F).
Storage Temp.	-10°C to +50 °C (+14°F to +122 °F).
Humidity	Operating: 30 to 90% (non-condensing).

Electromagnetic Compatibility

EMC Requirements:

Immunity EN50082-1 1992, EN500 82-1 1997 for LTC 2020/90 only.
Emission EN50081-1 1992.
FCC Part 15,Class B.

Safety

LTC 2009,LTC 2012,LTC 2017

CE	EN60065.
UL	UL 1410.
cUL	CSA 22.2#01.

LTC 2020

CE	EN60950.
UL	UL 1950.
cUL	CSA 22.2#950.

Product complies with DHHS Rules 21 CFR applicable at the date of manufacture.

BOSCH

Ordering Information
Model & Description
LTC 2009/51
9-inch b/w monitor CCIR standard (230 VAC 50 Hz)
LTC 2009/61
9-inch b/w monitor EIA standard (EIA)
LTC 2012/51
12-inch b/w monitor CCIR standard (230 VAC, 50 Hz)
LTC 2012/61
12-inch b/w monitor EIA standard (EIA)
LTC 2017/50
17-inch b/w monitor CCIR standard (230 VAC, 50 Hz)
LTC 2017/60
17-inch b/w monitor EIA standard (EIA)
LTC 2020/90
20-inch b/w monitor
Hardware Accessories
LTC 9009/00
Rack mount kit for 2x LTC 2009
LTC 9009/01
Blank panel for LTC 2009
LTC 9012/00
Rack mount kit for 1x LTC 2012
LTC 9017/00
Rack mount kit for 1x LTC 2017

BOSCH

LTC 2810/91 Color video monitor

The LTC 2810/91 is a standard resolution color monitor with a 23.6 cm (9.3 in.) viewable picture area and multi-standard compatibility. With a built-in loudspeaker and inputs able to accept NSTC and PAL standards, the LTC 2810/91 Monitor offers maximum flexibility for a wide variety of applications.

This monitor incorporates a 25 cm (10 in.) diagonally measured display tube with a stripe pitch of 0.63 mm (0.024 in.), which delivers standard color reproduction and picture clarity with 300 TV lines of horizontal resolution.

The LTC 2810/91 includes two loop-through composite video inputs, using BNC connectors with auto-termination, and one set of loop-through Y/C connectors for S-video signals. The monitor also features an auto-detect function to identify NTSC or PAL input signals, and automatically switch mode accordingly. A universal power supply is included to handle a wide range of power sources.

Monitor adjustments are made via the front controls. Using these controls, selections and adjustments can be made to monitor functions such as contrast, brightness, color, and tint. The loudspeaker volume is also adjustable, and is conveniently located on the front panel.

The LTC 2810/91 Monitor is housed in a compact, space-saving metal cabinet for rugged reliability. It may be rack-mounted in a standard EIA rack using the optional rack-mount kit.

Features

- 25 cm (10 in.) Screen Size
- 300 TVL Resolution
- Auto-sensing of PAL and NTSC Signals
- Selectable Composite Video and Y/C Inputs
- Auto-termination
- Audio Capability
- Wide Range Power Supply
- Compact, Space-saving Design
- Optional Rack-mounting

Technical Specifications	
Electrical	
Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	100 to 240 VAC
Power	55 W
Sync Format	PAL/NTSC
Display Tube	25 cm (10 in.) measured diagonally, 90° deflection angle, stripe pitch 0.63 mm, in-line guns, integral implosion protection
Viewable Picture	23.6 cm (9.3 in.) measured diagonally
Linearity	
Horizontal	Within +5%
Vertical	Within +5%
Horizontal Resolution	250 TVL minimum, 300 TVL typical
Video Input	
Composite video	1.0 Vp-p, sync negative Automatic switching from 75 Ohm unbalanced termination to Hi-Z with looped through operation
Y/C (S-video)	1.0 Vp-p (Y), 0.3 Vp-p (C); manual switching from 75 Ohm unbalanced to Hi-Z with loop-through operation via the impedance switch
Audio Input	
Line level	300 mV
Impedance	47 kΩ
Audio Output	
Loop-through line level, monaural	
Speaker	1.0 W
Controls	
Front panel	Volume, Contrast, Brightness, Color, Tint (NTSC only), Video Selector Switches (A/B, Y/C), Power On/Off
Rear panel	Y/C Impedance Switch
Indicators	
LED's	Three (green); indicate Video A, Video B and Y/C (S-video) when power is on
Connectors	
Power input socket	
Video A	Composite Video: Two BNC (1 in, 1 out)
Video B	Composite Video: Two BNC (1 in, 1 out)
Audio A	Two RCA phono jacks (1 in, 1 out)
Audio B	Two RCA phono jacks (1 in, 1 out)
Y/C (S-video)	Two Mini-DIN 4-pin (1 in, 1 out)
Power Cord	Two (2), 3-wire with grounded plug, 1.8 m (6 ft) long; one (1) with European Continental plug type and one (1) with U.S. plug type

BOSCH

Mechanical	
Cabinet	Material: Steel with plastic front
Finish	Charcoal
Dimensions (W x H x D)	260 x 245 x 332 mm (10.2 in. x 9.7 in. x 13.1 in.)
Weight	7.8 kg (17.1 lb)

Environmental	
Temperature Operating	0°C to +40°C (+32°F to +104°F)
Temperature Storage	-10°C to +50°C (+14°F to +122°F)
Humidity	10% to 90% relative, non condensing
Product Regulatory Compliance	
Electromagnetic Compatibility (EMC)	
	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR

Ordering Information	
Model & Description	
LTC 2810/91	Color video monitor 10-inch color monitor, standard performance
LTC 9110/00	Rack Kit For mounting one monitor in an EIA 19 in rack. One rack unit wide by seven rack units high.

BOSCH

LTC 2813/90 Color video monitor

The LTC 2813/90 is a standard resolution color display monitor whose price/performance ratio provides an optimum solution for any low cost color system.

Housed in a compact, space-saving metal cabinet, the LTC 2813/90 can be rack mounted in a 19-inch standard EIA rack using the optional LTC 9113/00 Rack Mount Kit.

Features

- 36 cm (14-inch) Screen Size
- 400 TVL Resolution
- Auto-sensing of PAL and NTSC Signals
- Wide Range Power Supply
- Front Panel Controls
- Metal Case Minimizes Interference
- Audio Capability
- Optional Rack Mounting

Functions

This monitor incorporates a 36 cm/14-inch (measured diagonally) CRT which delivers excellent color reproduction and picture clarity with more than 400 TV lines of resolution.

The LTC 2813/90 includes two loop-through composite video inputs, using BNC connectors and impedance switches. Video inputs are selected via a front panel slide switch. Single line level audio is also available. Additional front panel controls allow for adjustment of volume, sharpness, brightness, contrast, color, and tint.

The LTC 2813/90 features an auto sensing function which automatically identifies whether input signals are PAL or NTSC. A universal power supply handles a wide range of power sources.

Parts Included

Quant.	Component
1	LTC 2813 / 90

Technical Specifications

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Volt.	Sync Format
LTC 2813/90	120/230 VAC	90 – 264	65 W	
PAL/NTSC	50/60 Hz			

Display Tube	
35.6 cm (14-in) measured diagonally, 90°deflection stripe pitch 0.65 mm, in-line guns, integral implosion protection.	
Viewable Picture Area	
33.2 cm (13.1-in) measured diagonally.	
Linearity	
Horizontal	7%.
Vertical	7%.
Horizontal Resolution	
350 TVL (minimum)	
400 TVL (typical)	
Video Input	
Composite Video: 0.3 to 1.5 Vp-p, sync negative. Manual switching from 75 Ohm unbalanced to Hi-Z with loop-through operation via the impedance switch.	
Audio Input	1 V line level.
Audio Output	Loop-through line level, 1 W speaker.
Controls	
	Front Panel: Volume Sharpness Brightness Contrast Color Tint (NTSC only). Video input A/B selector switch Power: On / Off switch
Rear Panel	75Ohm / Hi-Z impedance switch (loop through).
Indicators (Front Panel)	Power on LED.

BOSCH

Mechanical	
Connectors	
Video A	Composite Video: 2 BNC, (one in,one out).
Video B	Composite Video: 2 BNC, (one in,one out).
Audio	2 RCA phono jacks, one in, one out.
Power Cord	Two detachable 3-wire IEC connector with grounded plug, 1.5 m (5 ft) long; one with European Continental and one with US plug types.
Cabinet	
Material	Steel with plastic front.
Finish	Charcoal.
Dimensions (W x H x D)	356 x 380 x 333 mm (14 x 15 x 13.1 in)
Weight	13.2 kg (29 lb).

Environmental	
Operating temperature	0°C to 40°C (32°F to 104°F).
Storage temperature	–10°C to 50°C (14°F to 122°F).
Humidity	10%–90%, non condensing.
Product Regulatory Compliance	
Electromagnetic Compatibility (EMC)	
	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR
Accessories	
LTC 9113/00 Rack Kit: For mounting one LTC 2813/90 monitor in a 19-inch standard EIA rack. One rack unit wide by 8 rack units high.	

Ordering Information
Model & Description
LTC 2813/90 Color video monitor 13-inch color monitor, standard performance
LTC 9110/00 Rack Kit For mounting one monitor in an EIA 19 in rack. One rack unit wide by seven rack units high.

BOSCH

LTC 2814/90 Color video monitor

The LTC 2814/90 color monitor offers a cost effective option for CCTV applications. The monitor is housed in an attractive styled case with convenient front controls and recessed handle and can be used as a desktop unit or can be rack mounted with a design-matched, easy-to-assemble rackmount kit.

Features

- 34-cm (13.4- in) Viewing Diagonal
- PAL and NTSC Formats with Composite Video and Y/C Signal Inputs
- Automatic Termination
- Metal Case Minimizes Interference
- Audio Capabilities
- Wide Range Power Supply
- Optional Rack Mounting

Functions

Ease of Installation and Operation, The monitor needs only to be connected to the mains supply and have a standard color video signal applied to the input connector for a color image to be produced. Apart from the power on/off switch and LED indicator, there is a range of controls that allow color picture optimization.

Range of application, the monitor features an auto-detect function which identifies whether input signals are PAL or NTSC and automatically switches mode accordingly. The monitor accepts either two composite video inputs via BNC connectors or one Y/C input via a four-pole connector on the rear panel. BNC output connectors allow loop-through connection to a second monitor or video recorder. The impedance is automatically set to 75 ohms by the input signal. For the two CVBS video inputs, a selection switch allows display of the video A or B input signal. An additional switch enables selection of CVBS or Y/C input. Sharp stable pictures and an enhanced display tube make the LTC 2814/90 monitor the professionals choice.

Enhancement of picture quality is provided by front panel controls for sharpness, contrast, brightness, color, and tint (NTSC). Audio connectors are provided at the rear for those applications where audio can be used, with a volume control for adjustment to the appropriate audio level.

Parts Included

Quant.	Component
1	LTC 2814 / 90 Color Video Monitor

BOSCH

Technical Specifications	
Electrical	
Rated Voltage	120/230 Vac, 50/60 Hz
Voltage Range	100 to 240
Power at Rated Voltage	70 W
Sync Format	PAL/ NTSC
Display Tube	35cm (14in) measure diagonally, 90°deflection stripe pitch 0.66 mm, in-line guns, integral implosion protection.
Viewable Picture Area	34cm (13.4in) measured diagonally
Linearity	Horizontal: 10%.
	Vertical: 10%.
Horizontal Res.	350 TV lines (CVBS).
Video Inputs	
Composite Video	0.5 to 1.5 Vp-p, sync negative. Automatic switching from 75Ohm unbalanced termination to Hi-Z with looped-through operation
Y/C	Impedance: 75 Ohm unbalanced
	Y signal: 0.7 Vp-p
	C signal: 0.3 Vp-p
Audio Input	Line Level: 300mV, Impedance: 47kOhm
Audio Output	Loop-through line level, Speaker: 1W
Controls (Front Panel)	Volume, Sharpness, Contrast, Brightness, Color, Tint (applicable to NTSC only), Composite Video - A,B / Y/C switch, Video input selection switch, Power On/Off.
(Rear panel)	Y/C impedance switch

Mechanical	
Connectors	
Composite Video	4 BNC, 2 in, 2 out. Y/C Video: 2 mini-DIN.
Audio	4 RCA phono jacks, 2 in, 2 out.
Power Cord	2, 3-wire with grounded plug; 1.5 m (5 ft) with European and US plug types
Cabinet	
Material	Steel with plastic front
Finish	Charcoal
Dimensions (WxDxH)	353 x 390 x 330 mm (13.9 x 15.4 x 13 in)
Weight	14 kg, (30.9 lb)

Environmental	
Operating Temp.	0 °C to +40 °C (+32 °F to +104 °F)
Storage Temp.	-10 °C to +50 °C (+14 °F to +122 °F)
Humidity	90% relative, non-condensing

Product Regulatory Compliance

Electromagnetic Compatibility (EMC)	
	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR

Ordering Information

Model & Description

LTC 2814/90 Color video monitor
14" color monitor pal 2 video inputs (230 Vac 50hz)

LTC 9114/00 19“ - Rack Kit for LTC 2814
For mounting one LTC 2814/90 monitor in an EIA 19 in rack. One rack unit wide by 8 rack units high.

BOSCH

LTC 2821/91 Color video monitor

The LTC 2821/91 is a high resolution, high performance color video display monitor, with a 51cm (20in) viewable picture area and multistandard compatibility. With a built-in loudspeaker and inputs able to accept NTSC and PAL standards, the LTC 2821/91 monitor offers maximum flexibility for a wide variety of applications. The monitor incorporates a 21-inch (measured diagonally) flat display tube, with a stripe pitch of 0.74 mm (0.029 inch). It delivers outstanding color reproduction and picture clarity, with more than 500 TV lines of horizontal resolution

Features

- 53 cm (21 inch) Screen Size
- 550 TV Lines Resolution
- Auto-sensing of NTSC & PAL Signals
- Two Loop-through Composite Video and Audio Inputs
- On-screen Display (OSD) for Setup and Adjustment
- Wide Range Power Supply

Functions

Designed for the CCTV security marketplace, the LTC2821/91 monitor includes two sets of composite video inputs, and two audio inputs. Each of these video and audio inputs has passive loop-through outputs that provide auto-termination.

Monitor adjustments are made via front panel controls. Selections and adjustments can be made to monitor functions such as picture sharpness, tint, color, brightness, and contrast. An on-screen display provides feedback information of the selected settings.

The monitor also features an auto-sensing function, which identifies input signals as either NTSC or PAL, and automatically switches mode accordingly. It also provides a no input on-screen indication in the event of loss of video signal. Additionally, the versatile design accepts a wide range of power sources, and is housed in a compact, space-saving metal cabinet for rugged reliability.

Parts Included

Quant.	Component
1	LTC 2821 / 91 Color Video Monitor

BOSCH

Technical Specifications	
Electrical	
Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	100 to 240
Power at Rated Voltage	90 W
Sync Format	PAL/NTSC
Display Tube	Flat square, 53cm (21 inch) measured diagonally, 90° deflection stripe pitch 0.74 mm (0.029 inch), in-line guns, integral implosion protection
Viewable Picture Area	51 cm (20 inch), measured diagonally
Linearity	Horizontal: 3% typical
	Vertical: 3% typical
Horizontal Res.	500 TVL (minimum)
	550 TVL (typical)
Video Inputs	
Composite Video	1.0 Vp-p, sync negative Passive loop-through video signal output terminal (auto-termination)
Audio Input	500 mV line level, 47 KΩHi Z
Audio Output	Loop-through line level, 1.5 W speaker
Controls (Front Panel)	VCR, Sharpness, Tint (NTSC only), Color, Brightness, Contrast, Volume, Data (2), Video, Power
Indicators	
Front Panel LED	One; Video A (red), Video B (green), VCR, (orange)
On-screen Display	Adjustment level, Video input selection, Loss of video signal

Mechanical	
Connectors	
Video A	Composite Video: 2 BNC (1 in, 1 out)
Video B	Composite Video: 2 BNC (1 in, 1 out)
VCR IN	Composite video: 1 BNC
Audio A	Two RCA phono jacks (1 in, 1 out)
Audio B	Two RCA phono jacks (1 in, 1 out)
Audio In (VCR)	One RCA phono jack
Power Cord	Two detachable 3-wire IEC connector with grounded plug, 1.83 m (6 ft) long one with European Continental plug type and one with US plug type
Cabinet	
Material	Steel with plastic front
Finish	Charcoal
Dimensions (W x D x H)	490 x 482 x 444 mm (19.3 x 19.0 x 17.5 in)
Weight	26.3 kg (58 lb)

Evironmental	
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-25°C to 50°C (13°F to 122°F)
Humidity	20%–80%, non condensing
Electromagnetic Compatibility (EMC)	
Complies with FCC Part 15, ICES-003, and CE regulations	
Safety	
Complies with CE regulations, UL, CSA,	
EN, and IEC Standards	
Complies with DHHS Rules 21 CFR	

BOSCH

LTC 2910/90 Color video monitor

The LTC 2910/90 is a standard resolution color display monitor designed for a variety of CCTV surveillance applications including industrial, educational, and medical installations where clear, high quality images and proven system reliability are required. This monitor incorporates a 23 cm/ 9-inch (measured diagonally) CRT which delivers excellent color reproduction and picture clarity with more than 350 TVL of resolution.

Features

- 23 cm (9-inch) Screen Size
- 350 TVL Resolution
- Auto-sensing of PAL and NTSC Signals
- Wide Range Power Supply
- Front Panel Controls
- Metal Case Minimizes
- Interference
- Audio Capability
- Optional Rack Mounting

Functions

The LTC 2910/90 includes two loop through composite video inputs, using auto-terminating BNC connectors, and RCA phone jacks for single line level audio. Video inputs are selected via a front panel slide switch. Additional front panel controls allow for adjustment of volume, sharpness, brightness, contrast, color, and tint.

The LTC 2910/90 features an auto sensing function which automatically identifies whether input signals are PAL or NTSC. It also includes a universal power supply to handle a wide range of power sources.

Housed in a compact, space-saving metal cabinet, the LTC 2910/90 can be rack mounted in a 19-inch standard EIA rack using the optional TC210AMK Rack Mount Kit. This kit allows for two units to be rack mounted side-by-side. When only one monitor is rack mounted, a blanking panel is included to cover the unused opening.

Parts Included

Quant.	Component
1	LTC 2910 / 90

BOSCH

Technical Specifications	
Electrical	
Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	90 to 264
Power at Rated Voltage	45 W
Sync Format	PAL/NTSC
Display Tube	23 cm (9-in) measured diagonally, 90Ô¾× deflection, deflection stripe pitch 0.50 mm, in-line guns, integral implosion protection.
Viewable Picture Area	22.3 cm (8.8 in), measured diagonally
Linearity	Horizontal: 7% typical
	Vertical: 7% typical
Horizontal Res.	300 TVL (minimum)
	350 TVL (typical)
Video Inputs	
Composite Video	Composite Video: 0.3 to 1.5 Vp-p, sync negative. Automatic switching from 75Ω unbalanced termination to Hi-Z with loop-through operation
Audio Input	1V line level
Audio Output	Loop-through line level, 1 W speaker
Controls (Front Panel)	
Volume, Sharpness, Contrast, Brightness, Color, Tint (NTSC only), Composite Video A,B switch, Video input selection switch, Power On/Off.	
Indicators	
Front Panel LED	Power on LED

Mechanical	
Connectors	
Video A	Composite Video: Two BNC (1 in, 1 out) Auto-terminating
Video B	Composite Video: Two BNC (1 in, 1 out) Auto-terminating
Audio	Two RCA phono jacks (1 in, 1 out)
Power Cord	Two detachable 3-wire IEC connector with grounded plug, 1.5 m (5 ft) long one with European Continental plug type and one with US plug type
Cabinet	
Material	Steel with plastic front
Finish	Charcoal
Dimensions (W x D x H)	222 x 303 x 227.5 mm (8.75 x 11.9 x 8.9 in)
Weight	6.8 kg (14.9 lb)

Environmental	
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-10°C to 50°C (14°F to 122°F)
Humidity	10%–90%, non condensing
Product Regulatory Compliance	
Electromagnetic Compatibility (EMC)	
	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR
Accessories	
TC210AMK Rack Kit	For mounting one or two LTC 2910/90 monitors in a 19-inch standard EIA rack 1 rack unit wide by 6 rack units high

BOSCH

LTC 2915/91 Color video monitor

The LTC 2915/91 is a high performance, high resolution color display monitor which includes a comprehensive lineup of professional features, offering maximum flexibility for a wide variety of applications. This monitor incorporates a 39cm/15in. (measured diagonally) CRT which, together with a specially designed comb filter circuit, delivers outstanding color reproduction and picture clarity with more than 700 TV lines of resolution. Adjustment of display parameters are made via user-friendly on-screen menus, offering a choice of default or customized settings selectable in seven languages.

Features

- 39cm (15 inch) Screen Size
- 700 TV Lines Resolution
- Auto-sensing of PAL & NTSC Signals
- Switchable Composite Video and Y/C Signal Inputs
- On-screen Menus for Monitor Adjustments
- Wide Range Power Supply
- Audio Capability
- Optional Rack Mounting

Functions

The LTC 2915/91 includes two loop-through composite video inputs, using BNC connectors with auto termination, and one set of loop-through Y/C connectors for S-video signals. Using front panel controls, each of these 3 inputs is selectable for display individually or in sequence mode. Single line level audio is also available for composite video A input and composite B or Y/C input.

The LTC 2915/91 features an auto-sensing function, which automatically identifies whether input signals are PAL or NTSC, an underscan function to ensure no loss or distortion of multi-screen pictures when connected to a multiplexer device, and a universal power supply to handle a wide range of power sources.

Housed in a compact, space-saving metal cabinet, the LTC 2915/91 can be rack mounted in a 19in. standard EIA rack using the optional LTC 9113/00 Rack Mount Kit.

Parts Included

Quant.	Component
1	LTC 2915 / 91

BOSCH

Technical Specifications	
Electrical	
Rated Voltage	120/230VAC, 50/60Hz
Voltage Range	100 to 240
Power at Rated Voltage	80W
Sync Format	PAL/NTSC
Display Tube	39 cm (15 inch) measured diagonally, 90° deflection dot triad pitch 0.28 mm integral implosion protection
Viewable Picture Area	35.6 cm (14 inch), measured diagonally
Linearity	2 to 3% typical
	7% maximum
Horizontal Resolution	700 TVL (minimum)
Video Inputs	
Composite Video	0.35 to 1.5Vp-p, sync negative, auto-terminating 75 Ohm unbalanced to Hi-Z with passive loop-through operation
Y/C	Y-Signal: 0.7Vp-p; C-signal: 0.3Vp-p, auto-terminating 75 Ohm unbalanced to Hi-Z with loop-through operation,
Audio Input	1V line level
Audio Output	Loop-through line level, 1W speaker
Controls (Front Panel)	
OSD	Selects on-screen display menu
^	Brightness adjustment increase, up cursor
V	Brightness adjustment decrease, down cursor
<	Contrast adjustment decrease, adjustment decrease OSD
>	Contrast adjustment increase, adjustment increase OSD
A	Select video input A
B	Select video input B
Y/C	Select video input Y/C
SEQ	Select video input A, B, and Y/C in sequence
Power	On/off switch
Indicators Front Panel	Power on LED
On-Screen Display (7 Languages)	
Brightness, Contrast, Tint (NTSC only), Color, Default, Language (English, Chinese, French, German, Spanish, Italian, Dutch), Channel title, Dwell time, Volume, Underscan, Sharpness	

Mechanical	
Connectors	
Video A	Composite Video: Two BNC (1 in, 1 out)
Video B	Composite Video: Two BNC (1 in, 1 out)
Audio A	Two RCA phono jacks (1 in, 1 out)
Audio B	Two RCA phono jacks (1 in, 1 out)
Y/C Video	Two mini-DIN, (1 in, 1 out)
Power Cord	Two detachable 3-wire IEC connector with grounded plug, 1.83m (6ft) long; one with European Continental plug type and one with US plug type
Cabinet	
Material	Steel with plastic front
Finish	Charcoal
Dimensions (W x D x H)	356 x 382 x 333 mm (14 x 15 x 13.1 in)
Weight	13.2kg (29.0lb)

Environmental	
Operating Temp.	0°C to 55°C (32°F to 131°F)
Storage Temp.	-10°C to 60°C (14°F to 140°F)
Humidity	10% - 90%, non condensing
Electromagnetic Compatibility (EMC)	
	Complies with FCC Part 15, ICES-003, and CE regulations
Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR

BOSCH

LTC 2917/91 Color video monitor

The LTC 2917/91 is a high performance, high resolution color display monitor which includes a comprehensive lineup of professional features, offering maximum flexibility for a wide variety of applications. This monitor incorporates a 44 cm / 17-inch (measured diagonally) CRT which, together with a specially designed comb filter circuit, delivers outstanding color reproduction and picture clarity with more than 700 TV lines of resolution. Adjustment of display parameters are made via user friendly on-screen menus, offering a choice of default or customized settings selectable in seven languages.

Features

- 44 cm (17-inch) Screen Size
- 700 TVL Resolution
- Auto-sensing of PAL and NTSC Signals
- Switchable Composite Video and Y/C Signal Inputs
- On-screen Menus for Monitor Adjustments
- Wide Range Power Supply
- Audio Capability
- Optional Rack Mounting

Functions

The LTC2917/91 includes two loop through composite video inputs, using BNC connectors and impedance switches, and one set of loop-through Y/C connectors for S-video signals. Using front panel controls, each of these 3 inputs is selectable for display individually or in sequence mode. Single line level audio is also available for composite video A and composite video B-Y/C inputs.

The LTC2917/91 features an auto-sensing function which automatically identifies whether input signals are PAL or NTSC, an underscan function to ensure no loss or distortion of multi-screen pictures when connected to a multiplexer device, and a universal power supply to handle a wide range of power sources.

Housed in a compact, space-saving metal cabinet, the LTC2917/91 can be rack mounted in a 19-inch standard EIA rack using the optional LTC9117/00 Rack Mount Kit.

Parts Included

Quant.	Component
1	LTC2917 / 91

BOSCH

Technical Specifications	
Electrical	
Rated Voltage	120/230 Vac, 50/60Hz
Voltage Range	100 to 240
Power at Rated Voltage	90W
Sync Format	PAL/NTSC
Display Tube	44cm (17in) measured diagonally, 90 deflection dot triad pitch 0.27mm In-line guns, integral implosion protection
Viewable Picture Area	41cm (16in), measured diagonally
Linearity	2 to 3% typical
	7% maximum
Horizontal Resolution	700 TV lines (minimum)
Video Inputs	
Composite Video	
0.35 to 1.5 Vp-p, sync negative auto-terminating 75 unbalanced to Hi-Z with passive loop-through.	
Y/C	
Y-signal: 0.7 Vp-p, C-signal: 0.3 Vp-p. Manual switching from 75 Ohm unbalanced to Hi-Z with loop-through.	
Audio Input	1V line level
Audio Output	Loop-through line level, 1W speaker
Controls (Front Panel)	
OSD	Selects on-screen display menu
^	Brightness adjustment increases, up cursor control
v	Brightness adjustment decreases, down cursor control OSD.
v	Contrast adjustment decrease, and adjustment decrease OSD.
v	Contrast adjustment increase, and adjustment increase OSD.
A	Select video input A
B	Select video input B
Y/C	Select video input Y/C
SEQ	Select video input A, B, and Y/C in sequence
Power	On/off switch
On-Screen Display (7 Languages)	
	Brightness, Contrast, Tint (NTSC only), Color, Default, Language (English, Chinese, French, German, Spanish, Italian, Dutch), Channel title, Dwell time, Volume, Underscan, Sharpness
Indicators (Front Panel)	Power on LED

Mechanical	
Connectors	
Video A	Composite Video: Two BNC (1 in, 1 out)
Video B	Composite Video: Two BNC (1 in, 1 out)
Audio A	Two RCA phono jacks (1 in, 1 out)
Audio B	Two RCA phono jacks (1 in, 1 out)
Y/C Video	Two mini-DIN, (1 in, 1 out)
Power Cord	Two detachable 3-wire IEC connector with grounded plug, 1.83m (6ft) long;
	one with European Continental plug type and one with US plug type
Cabinet	
Material	Steel with plastic front
Finish	Charcoal
Dimensions (WxDxH)	405 x 406 x 370 mm (15.9 x 16 x 14.6in)
Weight	19.4 kg (42.7 lb)

Environmental	
Operating Temperature	0 °C to 55 °C (32 °F to 131 °F)
Storage Temperature	-10 °C to 60 °C (14 °F to 140 °F)
Humidity	10% - 90%, non-condensing

Product Regulatory Compliance	
Electromagnetic Compatibility (EMC)	
	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR

Ordering Information
Model & Description
LTC 2917/91 Color video monitor
17" high performance. Color monitor
LTC 9117/00
19“- Rack Kit for LTC 2917

BOSCH

LTC 2919/90 Color video monitor

The LTC 2919/90 is a high performance, high-resolution color display monitor, which includes a comprehensive lineup of professional features, offering maximum flexibility for a wide variety of applications. This monitor incorporates a 48 cm/ 19-inch (measured diagonally) CRT, which together with a specially designed comb filter circuit, delivers outstanding color reproduction and picture clarity with more than 700 TV lines of resolution. Adjustments to display parameters are made via user friendly on-screen menus, offering a choice of default or customized settings selectable in seven languages.

Features

- 48.3 cm (19-inch) screen size
- 700 TVL resolution
- Auto-sensing of PAL and NTSC signals
- Switch-able composite video and Y/C signal inputs
- On-screen menus for monitor adjustments
- Wide range power supply
- Audio capability
- Optional rack mounting

Functions

The LTC2919/90 includes two loop through composite video inputs, using BNC connectors and impedance switches, and one set of loop-through Y/C connectors for S-video signals. Using front panel controls, each of these 3 inputs is selectable for display individually or in sequence mode. Single line level audio is also available for composite video A and composite video B-Y/C inputs.

The LTC2919/90 features an auto sensing function to automatically identify whether input signals are PAL or NTSC and a universal power supply to handle a wide range of power sources. Also included is an underscan function, which allows for compensation of extended picture content associated with multiscreen video displays, and a universal power supply to handle a wide range of power sources.

Housed in a compact, space-saving metal cabinet, the LTC 2919/90 can be flush mounted in a 19-inch standard EIA rack using the optional LTC 9119/00 Rack Mount Kit.

Parts Included

Quant.	Component
1	LTC 2919 / 90

BOSCH

Technical Specifications	
Electrical	
Rated Voltage	120 / 230 VAC, 50 / 60 Hz
Voltage Range	100 to 240
Power at Rated Voltage	100W
Sync Format	PAL/NTSC
Display Tube	48.3 cm (19 inch) measured diagonally, 90 deflection dot triad pitch 0.27 mm integral implosion protection
Viewable Picture Area	45.7 cm (18 inch), measured diagonally
Linearity	2 to 3% typical
	7% maximum
Horizontal Resolution	700 TVL (minimum)
Video Inputs	
Composite Video	0.3 to 1.5 Vp-p, sync negative. Auto-terminating 75 Ω unbalanced to Hi-Z with passive loop-through operation via the impedance switch.
Y/C	Y-signal: 0.7 Vp-p
	C-signal: 0.3 Vp-p. auto-terminating 75 Ω unbalanced to Hi-Z with loop-through operation.
Audio Input	1V line level
Audio Output	Loop-through line level, 1W speaker
Controls (Front Panel)	
OSD	Selects on-screen display menu
^	Brightness adjustment increase, up cursor.
v	Brightness adjustment decrease, down cursor.
<	Contrast adjustment decrease, and adjustment decrease OSD.
>	Contrast adjustment increase, and adjustment increase OSD.
A	Select video input A
B	Select video input B
Y/C	Select video input Y/C
SEQ	Select video input A, B, and Y/C in sequence
Power	On / off switch
Indicators Front Panel	Power on LED
On-Screen Display (7 Languages)	
Brightness, Contrast, Tint (NTSC only), Color, Default, Language (English, Chinese, French, German, Spanish, Italian, Dutch), Channel title, Dwell time, Volume, Underscan	

Mechanical	
Connectors	
Video A	Composite Video: Two BNC (1 in, 1 out)
Video B	Composite Video: Two BNC (1 in, 1 out)
Audio A	Two RCA phono jacks (1 in, 1 out)
Audio B	Two RCA phono jacks (1 in, 1 out)
Y/C Video	Two mini-DIN, (1 in, 1 out)
Power Cord	2 detachable 3-wire IEC connector with grounded plug, 1.83m (6ft) long; 1 with European - and 1 with US plug type
Cabinet	
Material	Steel with plastic front
Finish	Charcoal
Dimensions (W x D x H)	442 x 445 x 410 mm (17.4 x 17.5 x 16.1 in) with footpads 400 H mm (15.75 in) without footpads
Weight	24 kg (52.9 lb)

Environmental	
Operating Temperature	0°C to 55°C (32°F to 131°F)
Storage Temperature	-10°C to 60°C (14°F to 140°F)
Humidity	10% - 90%, non condensing

Product Regulatory Compliance	
Electromagnetic Compatibility (EMC)	
	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR

Ordering Information
Model & Description
LTC 2919/90 Color video monitor 19-inch high performance , color monitor
LTC 9119/00 Rack Kit For mounting one LTC 2919/90 monitor in a 19 in standard EIA rack 1 rack unit wide by 9 rack units high

BOSCH

Monitor mounts

This series of monitor mounts provides a convenient method of mounting most monitors to ceilings and walls. Units are available for mounting 23-cm (9-inch) to 69-cm (27-inch) monitors. The trays on all units swivel and are adjustable for tilt; monitors are easily mounted to the random hole patterns on the adjustable width trays.

See the compatiblility chart for the correct monitor mount for your Bosch monitor.

Features

- For mounting 23-cm (9-inch) to 69-cm (27-inch) monitors
- Wide range of sizes
- For wall and ceiling installations
- Adjustable tilt up to 30 and 360° swivel
- Top and front roll-out protection
- Sturdy construction

Functions

The MM3000 is a ceiling mount for 23-cm (9-inch) to 30-cm (12- inch) monitors. It is designed to mount to a ceiling or flat overhead surface. Its lightweight aluminum construction offers fast and easy installation. The tray locks with an Allen wrench.

The TC9209MM-W is designed to mount 23-cm (9-inch) to 33-cm (13-inch) monitors to a flat wall. These units have a locking mounting tray with a key-type lock.

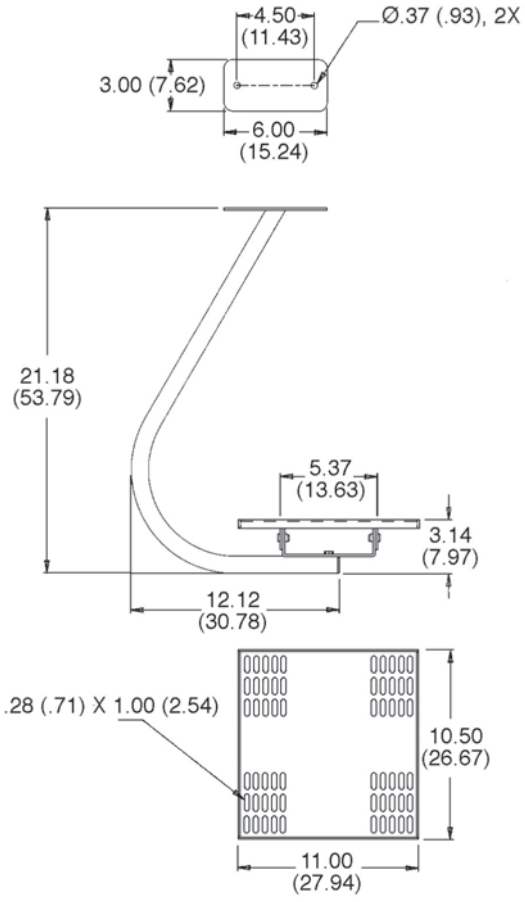
The TC9200MM series have all been redesigned to incorporate anti-roll-out brackets to provide an extra measure of safety and support to prevent a monitor from falling forward when mounted in the tilt-down position. Maximum tilt-down angle has been increased to 30°.

All parts are included in the TC9200MMC series to mount various monitor sizes to a structural ceiling.
The TC9220EC series extension columns can be used to increase clearance from the ceiling by 610 mm (2 ft) and 1219 mm (4 ft) lengths.

The TC9200MM-W series are used to mount monitors to a flat wall. Mounting arms are included and allow for 360° swivel of the mounted monitor.

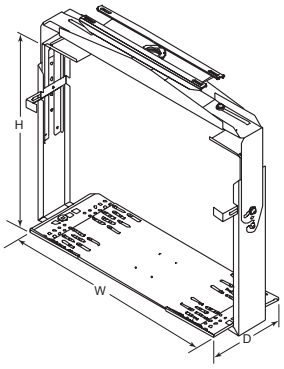
Installation/Configuration Notes

Structural Ceiling Mounts



MM3000

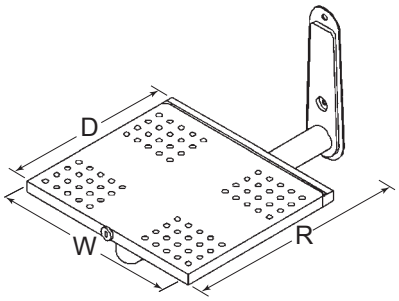
BOSCH



TC9217MM-C / TC9220MM-C / TC9227MM-C

Model No.	Width (W)	Height (H)	Depth (D)	Units
TC9217MM-C	343 to 534	324 to 457	254	mm
	13.5 to 21	12.8 to 18	10	in
TC9220MM-C	457 to 660	400 to 533	356	mm
	18 to 26	15.8 to 21	14	in
TC9227MM-C	610 to 787	527 to 660	356	mm
	24 to 31	20.8 to 26	14	in

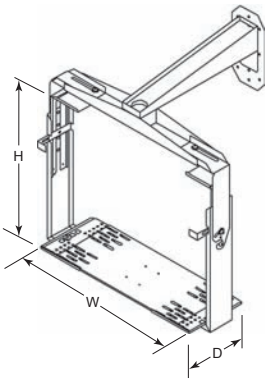
Wall Mounts



TC9209MM-W

Width (W)	Depth (D)	Reach (R)	Units
267	292	368	mm
10.5	11.5	14.5	in

Suspended Wall Mounts



TC9217MM-W / TC9220MM-W / TC9227MM-W

Model No.	Width [mm] [in]	Height [mm] [in]	Depth [mm] [in]	Reach [mm] [in]
TC9217MM-W	343 to 533	324 to 457	254	457
	13.5 to 21	12.8 to 18	10	18
TC9220MM-W	457 to 660	400 to 533	356	457
	18 to 26	15.8 to 21	14	18
TC9227MM-W	610 to 787	527 to 660	356	572
	24 to 31	20.8 to 26	14	22.5

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Technical Specifications	
MM3000	
Monitor Size	23-cm (9-inch) to 30-cm (12-inch)
Maximum Load	18 kg, (40 lb)
Pan	360Ô¾×
Tilt	45Ô¾× maximum forward
Finish	Off-white
Dimensions	See drawing1
Weight	3.62 kg, (8 lb)

1. Dimensions are shown in inches; dimensions in parenthesis are in centimeters.

TC9217MM-C	
Monitor Size	33-cm (13-inch) to 43-cm (17-inch)
Maximum Load	
Concrete Ceiling	65 kg, (150 lb)
Wood Stud Ceiling	57 kg, (125 lb)
Pan	360°
Tilt Range	30°
Finish	Black
Dimensions	See drawing
Weight	14.2 kg, (31.3 lb)

TC9220MM-C	
Monitor Size	48-cm (19-inch) to 53-cm (21-inch)
Maximum Load	
Concrete Ceiling:	65 kg, (150 lb)
Wood Stud Ceiling	57 kg, (125 lb)
Pan	360°
Tilt Range	30°
Finish	Black
Dimensions	See drawing
Weight	16.7 kg, (36.7 lb)

TC9227MM-C	
Monitor Size	63-cm (25-inch) to 69-cm (27-inch)
Maximum Load	
Concrete Ceiling	65 kg, (150 lb)
Wood Stud Ceiling	57 kg, (125 lb)
Pan	360°
Tilt Range	30°
Finish	Black
Dimensions	See drawing
Weight	19.2 kg, (42.4 lb)

TC9209MM-W	
Monitor Size	23-cm (9-inch) to 33-cm (13-inch)
Maximum Load	22.7 kg, (50 lb)
Pan	360°
Tilt Range	0°/5°/10°
Finish	Black
Dimensions	See drawing
Weight	3.9 kg, (8.5 lb)

TC9217MM-W	
Monitor Size	33-cm (13-inch) to 43-cm (17-inch)
Maximum Load	
Concrete Wall	68 kg, (150 lb)
Wood Stud Wall	56.7 kg, (125 lb)
Pan	360°
Tilt Range	30°
Finish	Black
Dimensions	See drawing
Weight	18.4 kg, (40.5 lb)

TC9220MM-W	
Monitor Size	48-cm (19-inch) to 53-cm (21-inch)
Maximum Load	
Concrete Wall	68 kg, (150 lb)
Wood Stud Wall	56.7 kg, (125 lb)
Pan	360°
Tilt Range	30°
Finish	Black
Dimensions	See drawing
Weight	21.3 kg, (46.9 lb)

TC9227MM-W	
Monitor Size	63-cm (25-inch) to 69-cm (27-inch)
Maximum Load	
Concrete Wall	68 kg, (150 lb)
Wood Stud Wall	56.7 kg, (125 lb)
Pan	360°
Tilt Range	30°
Finish	Black
Dimensions	See drawing
Weight	24.2 kg, (53.4 lb)

Monitor Mount Compatibility Chart		
Bosch Monitor	**Ceiling**	**Wall**
Model No.	**Mount**	**Mount**
Monochrome		
LTC2009 / 51 / 61	MM3000	TC9209MM-W
LTC2012 / 51 / 61	MM3000	TC9209MM-W
LTC2017 / 50 / 60	TC9217MM-C	TC9217MM-W
LTC2020 / 90	TC9220MM-C	TC9220MM-W
Color		
LTC 2810 / 90	TC9217MM-C	TC9217MM-W
LTC 2813 / 60/ 90	TC9217MM-C	TC9217MM-W
LTC 2814 / 90	TC9217MM-C	TC9217MM-W
LTC 2821 / 90	TC9220MM-C	TC9220MM-W
LTC 2910 / 50 / 60 / 90	MM3000	TC9209MM-W
LTC 2914 / 91	TC9217MM-C	TC9217MM-W
LTC 2917 / 90 / 91	TC9217MM-C	TC9217MM-W
LTC 2919 / 90	TC9220MM-C	TC9220MM-W
27ST220L	TC9227MM-C	TC9227MM-W

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Ordering Information
Model & Description
MM3000
Monitor mount ceiling for 9-inch – 12-inch monitors 40 lb
TC9217MM-C
Monitor mount 10-inch – 17-inch (ceiling)
TC9220MM-C
Monitor mount 19-inch – 21-inch f/ceiling mount
TC9227MM-C
Monitor mount, ceiling
TC9209MM-W
Monitor mount, wall, for ltc 2009, 2012, 2910.
TC9217MM-W
Monitor mount 12-inch – 17-inch (wall)
TC9220MM-W
Monitor mount 20-inch f/wall mount
TC9227MM-W
Monitor mount, wall for 20-inch - 27-inch monitors, 200 lb
Hardware Accessories
Extension column TC9220EC2
Extension pole, 2 ft., for monitor ceiling mounts.
Extension column TC9220EC4
Extension pole, 4 ft., for monitor ceiling mounts.

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